
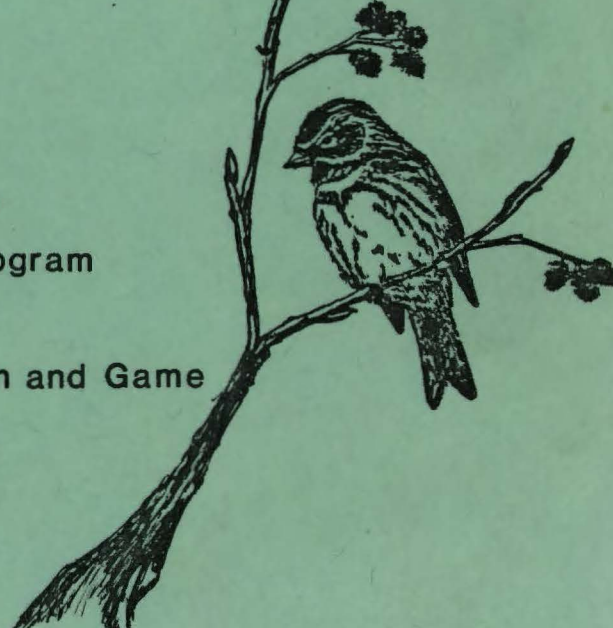


ALASKA BREEDING BIRD SURVEYS

1982 Summary



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Nongame Wildlife Program
Game Division
Alaska Department of Fish and Game
October 1982



INTRODUCTION

Breeding Bird Surveys (BBS) were first begun in Maryland and Delaware in 1965 with a primary purpose to document changes in bird populations. Since these first test routes were conducted, the number of routes run has increased each year. Presently, there are about 2500 routes in the contiguous states and Canada, and about 2000 are run each spring. Short- and long-term changes (both increases and decreases) in bird populations have already been documented from the BBS since the program was initiated. To be useful as an index, surveys need to be done for several years over a wide area by competent observers.

In Alaska, several routes were selected and surveys were run sporadically in the last several years. They were mainly conducted by people who had run them in the Lower 48 and were visiting or had recently moved to Alaska. Not enough data were collected to establish baseline population levels for any bird species. This year, 1982, is the first time any organized effort was made to conduct BBS in Alaska. The recently established Nongame Wildlife Program of the Alaska Department of Fish and Game (ADFG) recognized the need to obtain better information on our breeding bird populations and initiated the effort in 1982. With increased interest and experience in conducting surveys by participants, a good data base will be collected on Alaska's breeding bird populations.

METHODS

Routes to be used in the BBS were randomly selected within a 1-degree block of latitude and longitude (latilong). Both the starting point and direction of travel were selected from a table of random numbers. Three and occasionally four routes were selected per latilong along the major road system in Alaska and near major cities and towns. We were unable to distribute the routes throughout Alaska because few roads exist and qualified observers were sparsely distributed. We did select some routes along rivers, trails and beaches, but many of these were not of the standard length.

Meetings were held in Anchorage and Fairbanks to give instructions to many of the potential observers on the survey technique to be used and to help them decide which class of observers they were. Three classes were recognized: Senior Observer - proficient at identifying birds by both sight and sound; Junior Observer - experienced observer but still learning some bird calls and becoming more familiar with the uncommon species and bird distribution in the region; Apprentice Observer - Interested in birds but lacks identification experience. Only data from Senior Observers was included in the national survey.

Most BBS routes were 25 miles long - the standard for those done in other states and provinces. However, it was necessary in certain locations to make the routes 10 or 15 miles long. Each route consisted of counting locations $\frac{1}{2}$ mile apart. At each stop the most

experienced observer (if more than one observer was present) recorded every bird seen or heard within $\frac{1}{4}$ mile radius of the observer in a 3 minute time period. Weather data were recorded at the start and end of the survey. Relative abundance of habitat types was recorded at each stop. For routes not previously run, a description of each stop location was recorded so that the same location can be found in the future.

Surveys conducted between 1 and 20 June were eligible for inclusion in the Migratory Bird Laboratory data base. After 20 June many birds had stopped singing and surveys conducted after that date likely contained erroneous data. Each observer started the transect at or near $\frac{1}{2}$ hour before sunrise which is 2:30 to 3:00 AM in much of Alaska.

Data were recorded on field sheets and totaled on summary sheets. Original forms were sent to the Nongame Wildlife Program, ADFG for summarization.

RESULTS

In Alaska in 1982, 25 BBS routes were completed (Table 1) and 9 others attempted but were weathered out. Three of the transects were conducted after the 20 June cutoff date and ~~4~~ were done by "junior" observers. Completed surveys included 19 of 25 miles, 1 of 18 miles, 2 of 15 miles and 3 of 10 miles. Two surveys were conducted in Southeast, 17 in Southcentral and 6 in Interior Alaska.

In the 25 surveys, 128 species of bird were reported (Table 2). The number of species per route ranged from 16 to 55 and the total number of birds from 104 to 1257.

The American Robin was the most widely distributed bird in the BBS. It was recorded on all but the Cold Bay transect. Varied Thrushes were the next most widely distributed species. Three other species were found on over 20 of the routes: Common Redpoll, White-crowned Sparrow and Dark-eyed Junco. Common Snipe were the most common shorebird and both Yellow-rumped and Orange-crowned Warblers were common.

The Glaucous-winged Gull was the most abundant bird (740 total individuals), but 463 of the total were seen on one route (Homer). This species was observed on only 8 routes. Dark-eyed Juncos and White-crowned Sparrows were the next most abundant birds (622 and 614, respectively). Other species numbering over 400 in the 25 routes were Alder Flycatcher (524), Swainson's Thrush (446), Varied Thrush (441) and Common Redpoll (411). Thirty-seven species were found on only one route and, of these, 15 were single individuals.

During this first year of BBS in Alaska, 44 people participated in the surveys as observers and assistants. Sixty-four people volunteered to help (Table 3), and several others were asked to participate or find knowledgeable birders in their areas to conduct surveys.

Table 1. Breeding Bird Survey routes and observers, June 1982.

Add date of survey

Route Name	Date	Route Number	Quadrangle	Route Length (mi)	Observers
Wrangell		5611	Petersburg	10	Daniel Rosenberg, Kurt Becker
Sitka		5724	Sitka	15	David Krause, Marge Ward, Dave Hardy
Cold Bay		5581	Cold Bay	15	Chris Dau
Homer		5934	Seldovia	25	Thede Tobish, Lisa Oakley, Karen Oakley
Dillingham		5957	Dillingham	18	Irma O'Brien, John Wright, Jerry Lipka
Kenai Lake		6028	Seward	10	Paul Arneson, Julie Kelly, Greg Smith
Moose Pass		6029	Seward	25	Anthony Route, Lon Garrison
Seward		6030	Seward	25	Rick Austin, Ruth McHenry
Skiikak Lake		6031	Kenai	25	Darrell Lee
Swan Lake Road		6033	Kenai	25	Mary Portner, Walter Jakubas, Theodore Bailey
Kalifornsky		6035	Kenai	25	Mark Dalton, Cami Hamilton
Cohoe		6036	Kenai	25	Penny Rennick, Jill Shepherd
Valdez		6117	Valdez	10	Gordon Tans
Sheep Mountain		6121	Anchorage	25	Herman Griese
Matanuska		6126	Anchorage	25	LeRoy Sowl, Clayton Hardy
Wasilla		6127	Anchorage	25	LeRoy Sowl, Clayton Hardy
Hatcher Pass		6129	Anchorage	25	Andrew Hoffman, Liz Hoffman
Goose Bay		6130	Anchorage	25	Buzz Scher, Devony Lehner
Willow		6132	Tyonek	25	Buzz Scher, Pat Baird
MacIaren		6317	Mt. Hayes	25	Stacy Scott, Oliver Scott
Denali		6336	Healy	25	Stacy Scott, Oliver Scott
Toklat		6341	Mt. McKinley	25	Noble Proctor, Robert Armstrong
Taylor Highway		6402	Eagle	25	Stacy Scott, Oliver Scott
Chena River		6427	Big Delta	25	Cathryn Moitoret, Barb Johnson
Little Salcha		6428	Big Delta	25	Junior Kerns, Jim Clark
<u>Routes attempted but weathered out</u>					
Adak		5101	Adak	15	Fred Zeillemaker, Fred Deines
Hope		6027	Seward	25	Ken Rice
Thompson Pass		6114	Valdez	25	Gordon Tans
Chulitna		6231	Talkeetna	25	Rick Austin, Phyllis Weber
Su Bridge		6232	Talkeetna	25	Bob Rodrigues
Petersville		6233	Talkeetna	25	Thede Tobish, Lisa Oakley, Karen Oakley
Monahan		6331	Healy	25	Bill Gabriel
Parks Highway		6407	Fairbanks	25	Pat Johnson
Chatanika		6508	Circle	25	Sue Quinlan, Pam Bruce

4/4

Table 2. Summary of 25 breeding bird surveys conducted in Alaska, June, 1982. Routes were 25, 15 or 10 miles long.

Species	Wrangell	Sitka	Cold Bay *	Homer	Dillingham	Kenai Lake	Moose Pass	Seward	Skilak Lake	Swan Lake Rd.	Kalifornsky	Coho **	Valdez	Sheep Mt. *	Matanuska	Wasilla	Hatcher Pass	Goose Bay	Willow	Maclaren	Denali	Toklat	Taylor Hwy.	Chena River **	Little Salcha **	Total No. Inds.	No. of Routes
Red-throated Loon			1		4			1												1						6	3
Arctic Loon								1	1	8		2	2	1					1							2	2
Common Loon			2	1	1			1											1	3						22	10
Bald. Loon																										1	1
Red-necked Grebe				1						2						4			5							12	4
Horned Grebe																2										2	1
Great Blue Heron	2	1												2		1										3	2
Trumpeter Swan																										3	2
Tundra Swan			3																							3	1
Canada Goose	2										12	7														21	3
American Migeon				2										10							3					21	5
Green-winged Teal													1	6												13	4
Mallard			4	15				2					10	2						1	2	3				45	10
Northern Pintail				2									2	3							9					19	5
Northern Shoveler																					1					1	1
Greater Scaup			2											35		1					1					38	3
Lesser Scaup																						1				1	1
Unid. Scaup		2																				7				11	3
Common Eider				12																						12	1
Harlequin Duck				14																						14	1
Black Scoter			8																							8	1
Surf Scoter														3												3	1
White-winged Scoter														1												1	1
Bufflehead																										2	1
Barrow's Goldeneye								1																		1	1
Common Goldeneye				1																	1					2	2
Common Merganser											1									2						3	2
Bald. Merganser	2																									2	1
Bald Eagle	5	14									1															20	3

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Table 2 (cont'd)

Species	Wangell	Sitka	Cold Bay *	Homer	Dillingham	Kenai Lake	Moose Pass **	Seward	Skilak Lake	Swan Lake Rd.	Kallitonsky	Coho **	Valdez	Sheep Mt. *	Matanuska	Wasilla	Hatcher Pass	Goose Bay	Willow	Maclaren	Denali	Toklat	Taylor Fwy.	Chena River **	Little Salcha **	Total No. Inds.	No. of Routes
Northern Harrier																			2							5	2
Northern Coshawk				1																		3				1	1
Sharp-shinned Hawk												1														1	1
Red-tailed hawk																										1	1
Golden Eagle													1						2							3	2
American Kestrel													2													2	1
Unid. Hawk						1																				1	1
Spruce Grouse						3																				3	1
Blue Grouse																										9	1
Willow Ptarmigan	9		3																3			4				10	3
Rock Ptarmigan																						2				2	1
Sandhill Crane			1	1					1	9								1				2				24	7
Lesser Golden Plover																			3			8				11	2
Semipalmated Plover			1	6							1								2			2				12	5
Whimbrel				2																		2				4	2
Upland Sandpiper													2									1				3	2
Greater Yellowlegs									2																	9	4
Lesser Yellowlegs												2														45	8
Unid. Yellowlegs													9													8	2
Solitary Sandpiper																										2	1
Spotted Sandpiper							1																			8	6
Red-necked Phalarope													2													18	5
Common Snipe													3													146	19
Long-billed Dowitcher			4	10	10	3		5	3	9	2	7	3					6	1	32	26	1				2	1
Unid. Dowitcher										2			1													1	1
Western Sandpiper																										19	1
Least Sandpiper										2																7	3
Rock Sandpiper			52																							52	1
Unid. Sandpiper			10																							10	1
Long-tailed Jaeger																										1	1

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Table 2 (cont'd)

Species	Wrangell	Satka	Cold Bay *	Homer	Dillingham	Kenai Lake	Moose Pass	Seward	Skilak Lake	Swan Lake Rd.	Kalifornsky	Coho **	Valdez	Sheep Mt. *	Matanuska	Wasilla	Hatcher Pass	Goose Bay	Willow	Maclaren	Denali	Toklat	Taylor Hwy.	Chena River **	Little Salcha **	Total No. Inds.	No. of Routes
New Gull			8	39	2		4	44			65	3	24					1	2	1	3	7				204	13
Herring Gull											193							3	2	4	1					203	5
Slaty-backed Gull				1														3	2							1	1
Glaucous-winged Gull	27	9	1,463	11			4				220		5				2		4			5				740	8
Bonaparte's Gull									1		2															14	5
Black-legged Kittiwake				46																						46	1
Unid. Gull		2									12		4					1	3	2		1				30	8
Arctic Tern				30			5	2										1								30	1
Common Murre																		8								8	1
Rock Dove										2												1				2	1
Great Horned Owl																										2	1
Northern Hawk-Owl																						1				2	1
Short-eared Owl																										2	1
Rufous Hummingbird	3	6																								9	2
Belted Kingfisher	4	2					1				1						2	1	1							14	7
Downy Woodpecker											1							1								2	2
Hairy Woodpecker		1		2					2		1															5	3
No. Three-toed Woodpecker				2							1							5					1	4		13	5
Northern Flicker									1					2				1								3	3
Unid. Woodpecker																		1								3	3
Say's Phoebe				4					1									1		2		1				4	3
Olive-sided Flycatcher										9	11			3				6	3		4					51	10
Western Wood-Pewee												1						4	3							15	6
Alder Flycatcher									34	18	49		21				52	37	58	3		1	17	35	69	524	16
Unid. Flycatcher												3						1								7	3
Horned Lark																						1				1	1
Tree Swallow				5	26	3	42	7	10	11	61		2	9	24	63	20	20	5			2	2	2	2	275	18
Violet-green Swallow		3		5			70	5	2		14	19	8	1	5	5	2	3	2			9	25			142	14
Bank Swallow				6							47			4	14	2	2	7		22	20					192	9

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Table 2 (cont'd)

Species	Wrangell	Sitka	Cold Bay *	Homer	Dillingham	Kenai Lake	Moose Pass **	Seward	Skilak Lake	Swan Lake Rd.	Kalifornsky	Coho **	Valdez	Sheep Mt. *	Matanuska	Wasilla	Hatcher Pass	Goose Bay	Willow	Maclaren	Denali	Toklat	Taylor Hwy.	Chena River **	Little Salcha **	Total No. Inds.	No. of Routes
Barn Swallow	1	1							7		7					1		15	54							2	2
Cliff Swallow								45	1																	84	5
Unid. Swallow																										46	2
Steller's Jay	5			1					5	1	2										2	1	2	3		8	3
Gray Jay				4	5	6					4		6											3		39	11
Black-billed Magpie				9			10						1	13		4	2	3	1		1					44	9
Northwestern Crow	28	55		4							5		2													94	5
Common Raven	7	38	8	8	5				1	3	3		16	1	1		2	1		2	4	2	3	10		117	19
Black-capped Chickadee					2		1		1	3	10				1		4	3	5				4			19	8
Boreal Chickadee				4		3												2								14	4
Chestnut-backed Chickadee	4	20																2	1							24	2
Unid. Chickadee																										3	2
Brown Creeper											2		1													2	1
American Dipper																										1	1
Winter Wren	10	10																								20	2
Townsend's Solitaire															1											1	1
Northern Wheatear																						1				1	1
Varied Thrush	13	15		37	27	25	33	103	5	12	15	8	22	5	8	9	15	18	12		23	1	2	31	3	441	22
Gray-cheeked Thrush	1			1	23	3			19	2	4		18	14	8	77	5	5	10	56	63	2	14			325	18
Swinson's Thrush	18	3		19	6	29		2	17	79	11		3	12	14		39	59	59			1	8	65	2	446	19
Hermit Thrush	15	21		33	2	17	45	18	21		7	1	32	24	7		4					1				262	17
Unid. Thrush																										26	1
American Robin	10	3		20	6	6	16	21	40	9	31	21	9	42	6	37	31	48	27	5	26	5	1	6	9	435	24
Arctic Warbler																				72	9	2				87	4
Ruby-crowned Kinglet	9			28	31	21		43	6	11	25	3	5	16	2	6	10	17	16		6	1	11			267	19
Golden-crowned Kinglet	13			2				2																		17	3
Water Pipit			7				2		1					3					5	10						27	3
Bohemian Waxwing																										31	6
Northern Shrike																										2	1
Orange-crowned Warbler	10	9		52	9	13		28	5	22	23		39	34	1		6	15	13		15	12			25	331	18

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Table 2 (cont'd)

Species	Wrangell	Sitka	Cold Bay *	Homer	Dillingham	Kenai Lake	Moose Pass **	Seward	Skilak Lake	Swan Lake Rd.	Kalifornsky	Coho **	Valdez	Sheep Mt. *	Katnuska	Wastilla	Hatcher Pass	Goose Bay	Willow	Maclaren	Denali	Toklat	Taylor Hwy.	Chena River **	Little Salcha **	Total No. Inds.	No. of Routes
Yellow Warbler	3	1				19	5	1	X	4	2	26				1	13	7	2	1				20		15	1
Townsend's Warbler		5		25		12	1	28																		71	5
Yellow-rumped Warbler				73		3	17	56		31	30	5	8	17	2	18	69	49	55				7	9	2	18	1
Blackpoll Warbler		1		12		4	2		20		14	1	1	16		26	26	33	23	8				2		223	16
Northern Waterthrush				1		21	10	1	38									46	17	3			1	35		183	12
MacGillivray's Warbler																							1			1	1
Wilson's Warbler		7		42		20	35	19			23		3	44	1			10	12	53			1	2		375	16
Unid. Warbler				1				2	1										2					30		31	2
Rusty Blackbird				36		2	2				3		8	4	14			3	2					4		7	5
Pine Siskin		3		10		6	2	7	3	5	48	74	1	29	8	29	59	52	15	15			1			79	10
Common Redpoll				4		19																				411	21
Purple Finch						5	2	2			1															2	1
Pine Grosbeak				2		5	3	2	1		3		1													15	7
White-winged Crossbill																										3	1
Lapland Longspur																										75	3
Fox Sparrow		2		14		1	24	1	1		6	31	17	3	3	11	30	58	22	16						328	18
Song Sparrow				2		1	6		5		13	1												1		30	8
Lincoln's Sparrow	1			7		1					2	7	1	4			6	13	7							52	9
White-crowned Sparrow				5		3	17		36	29	43	20	5	62	11	73	15	36	29	38			1	9	7	614	21
Golden-crowned Sparrow				3		3	4	4	1		6	1	4	4			23									103	12
Dark-eyed Junco		34		22		8	49	22	40	54	25	13	36	18	18	71	28	32	36							622	21
Savannah Sparrow				3		7	6	16	7	11	29	8	1	8		9	11	10	6	28						261	19
American Tree Sparrow				31										13						66				1		194	6
Chipping Sparrow							1				2															1	1
Unid. Sparrow																										10	2
Unid. Bird	6																5							8	8	27	4
Total Birds	196	290	181	1257	375	221	399	529	301	393	1131	185	317	548	160	517	485	651	469	534	458	452	104	389	240		
Total Species	22	27	20	55	30	26	29	28	32	27	53	16	37	46	24	26	27	41	39	36	32	43	20	32	17		

* Conducted after 20 June deadline.

** Conducted by junior observer.

Table 3. Volunteers for Breeding Bird Surveys, 1982

Armstrong, Bob
Arneson, Paul
Austin, Rick
Bailey, Ted
Baird, Pat
Becker, Kurt
Bruce, Pam
Clark, Jim
Cline, Dave
Dalton, Mark
Dau, Chris
Deines, Fred
Flynn, Patty
Gabriel, Bill
Garrison, Lon
Griese, Herman
Hamilton, Cami
Hardy, Clay
Hardy, Dave
Hoffman, Andy
Hoffman, Liz
Jakubas, Walter
Johnson, Barb
Johnson, Pat
Kelly, Julie
Kerns, Junior
Krause, David
Lee, Darrell
Lehner, Devony
Lipka, Jerry
Mansfield, Al
Martin, Philip

McHenry, Ruth
Moitoret, Kate
Mountjoy, Ann
Oakley, Karen
Oakley, Lisa
O'Brien, Irma
Patten, Sam
Portner, Mary
Proctor, Noble
Quinlan, Sue
Rennick, Penny
Rice, Ken
Rodrigues, Bob
Rosenberg, Dan
Route, Antony
Scher, Buzz
Schwahn, Bonnie
Scott, Oliver
Scott, Stacy
Shepherd, Jill
Smith, Greg
Sowl, LeRoy
Tankersley, Nancy
Tans, Gordon
Tobish, Thede
Trapp, John
Ward, Marge
Weber, Phyllis
Whitman, Jack
Wright, John
Zeillemaker, Fred
Ziminski, Peter

DISCUSSION

The BBS has proven to be an effective index for bird populations in the Lower 48. Both range expansions and population increases and decreases have been recorded by using this technique. Because Alaska is steadily changing, we, too, need to obtain baseline data to monitor our bird populations.

The 1982 attempt at organizing Alaskan BBS was successful. The technique used requires a reliable corps of volunteer observers, and this year a large number of people volunteered to run surveys or to learn the technique by helping more experienced observers. As more people find out about the BBS and realize how important a data base it will be in the future, I'm sure we will get more volunteers to conduct surveys.

To make the technique successful, it is important to get coverage across the state in a variety of habitat strata. With increased participation in the future, the BBS results will more clearly reflect what is happening to bird populations in Alaska. More routes will be selected in other parts of the state as the need arises.

Because this was essentially our first year of bird surveys, no comparisons can be made or trends noted from previous years. Only general comments about the surveys themselves can be made about the 1982 results. After talking with observers when their data were turned in and after looking over the results of the survey, several problems became evident which require further discussion. Probably the most obvious problem was that many observers were less skilled in recognizing birds by song than is necessary. Identifying birds by sound (and over 90% of our observations are by sound) requires practice prior to the survey. Many observers had difficulty identifying thrushes, warblers and sparrows. I heard one observer say "I never knew so many birds could sing in 3 minutes." And in some habitats the variety and number of birds singing can be overwhelming. There were some unusual sightings, but unfortunately they could not be confirmed. If you do see an unusual species or if a bird is out of its normal range, please let us or other observers know immediately or photograph the bird to verify it.

Some of us don't have the hearing acuity that we once had, and I'm sure we missed birds because of it. Birds like Blackpoll Warbler, Savannah Sparrows and Golden-crowned Kinglets don't sing loudly enough for many of us to hear unless they are close. We appreciate and need the help of these observers, but it would be helpful to know which observers have some loss of hearing so that we can better interpret the results.

There were also problems with like-sounding birds possibly being misidentified. Orange-crowned Warblers and Dark-eyed Juncos may have been confusing to some observers, while others had trouble with the thrushes. We hope to rectify this next year by holding training

sessions before the BBS and providing a better tape of bird sounds. The tape could consist of a song-identification-song repeated, or song-identification; or song and no identification on the tape, only on a sheet of paper to make it easier to learn vocalizations. We could also put similar sounding calls adjacent on the recording so that you could compare them more easily.

A few people complained that 25 miles was long and boring especially if they were in homogenous habitat. The only answer I have for that is try to think of the importance of the survey in the long run. This isn't a "Big Day in May", and we aren't out to set records for numbers of species or total individuals. We're interested in establishing baseline population levels for future use. It definitely takes dedicated volunteers to run the surveys in Alaska, especially when you have to get up so early in the morning and drive to a distant starting point not knowing what the weather conditions will be when you get there. The Nongame Wildlife Program staff and I'm sure the U.S. Fish and Wildlife Service in Maryland are certainly appreciative of the efforts put out by the volunteers this year.

Because most of our routes were along primary roads, we had to expect some traffic. Some observers were amazed at the heavy traffic as early as 4:30 a.m. Where traffic noise is a serious problem, a few count periods can be extended to 4 minutes instead of 3 to make up for birds that may not have been heard because of the traffic.

Several other minor problems were reported and we hope to solve these before next year's BBS. There was confusion as to whether the first stop was at the beginning of the transect or at the first $\frac{1}{2}$ mile point; it should be at the starting point. Some observers indicated confusion in filling out habitat information; this was the first attempt to include habitat information in the survey and there were problems. We plan to clarify the habitat section before next field season, and include an explanation of what is needed for habitat delineation in the instructions. We appreciated your suggestions for improving the recording forms. We will revise them before next year to make them more useable.

Some participants reported that it helped to have 1 or 2 additional people assisting. One person timed the count, another recorded what birds the senior observer heard or saw, and both assistants learned more about the technique.

Finally, there was some confusion on interpreting instructions this year. Please read and reread them before the survey and if you don't understand something, call us to clarify it. Such rules as starting $\frac{1}{2}$ hour before sunrise must be adhered to to make data consistent from year to year. We appreciated those people who submitted their data promptly. When this is done, we are able to summarize the data quickly and get a report back to you soon after the field season.

Overall, we are very pleased with the success of the 1982 BBS. Since it was our first organized attempt at surveys and we had many new observers, problems should be expected (and we got some). However, these can all be corrected in the future and succeeding BBS will be bigger and better if we continue to get dedicated observers like we had in 1982.

If you have additional comments about the bird surveys or suggestions for improvement, please don't hesitate to write or call us.